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6.4 DOCUMENT CONTROL

All documents must be prepared, reviewed and approved in accordance with RMRS DC-06.01, Document Control Program. If the activity is considered a CERCLA removal action, all AR records generated shall be identified, handled and submitted in accordance with the RMRS Administrative Record Document Identification and Transmittal (RM 06.04) Procedure. All non AR records shall be handled in accordance with the RMRS Records Identification, Generation and Transmittal (RM-06.02) Procedure. All activities described in project documents shall be conducted in accordance with approved and controlled instructions and procedures identified in project specific documents.

6.5 CHANGE CONTROL

Design activities are conducted in accordance with the Site's Configuration Change Control Program and the Integrated Work Control Programs, 1-454000-CSM-001. Activities are also conducted in accordance with the RMRS Conduct of Engineering Manual (COEM).

6.6 PROCUREMENT

Procurement activities are conducted in accordance the site Procedure, 1-W36-APR-111, Acquisition Procedure for Requisitioning Commodities and Services and the RMRS QAPD.

6.7 INSPECTION AND ACCEPTANCE TESTING

Inspection and Acceptance Testing is conducted in accordance with Site Procedures 1-D23-QAP-10.02, *Inspection* 1-31000-COOP 019, *Returning Systems and Equipment to Service,* 1-V51-COEM-DES-210, *Design Process Requirements* and 1-I97-ADM-12.01, *Control of Measuring and Test Equipment.*

6.8 MANAGEMENT ASSESSMENTS

Management Assessments are conducted in accordance with the RMRS QA, 9.01, RMRS Management Assessments.

6.9 INDEPENDENT ASSESSMENTS

RMRS Independent Assessments are conducted in accordance with RMRS, QA-10.01, Independent Assessment and RMRS WI, QA-10.01, *Conduct of Surveillances.*

6.10 QUALITY CONTROL (QC)

The following QC sampling requirements will be used as necessary on this project:

QC samples will be collected as part of the characterization at a frequency of 1 in 20 samples. The following types of QC samples will be collected to support characterization:

Duplicates: Duplicate (collocated) samples will be collected in the same manner and analyzed by the same analytical methods, in the same laboratory as the regular samples. These samples will be submitted blind to the laboratory. All duplicate samples will be collected using the same sampling equipment used for collection of the regular samples. Sampling equipment will be decontaminated while collecting regular and QC samples from the same location.

Equipment Rinsate Blanks: Will be prepared by collecting distilled water, poured over decontaminated sampling equipment, between collection of regular samples and collected only when sampling equipment is used. If equipment rinsate blanks will not be collected, all detections of COCs will be considered real and not attributable to cross contamination.

6.11 ANALYTICAL DATA

Analytical data collected in support of the IHSS 121 and 148 soil sampling project will be evaluated using the guidance established by the Rocky Flats Administrative Procedure 2-G32-ER-ADM-08.02, *Evaluation of ERM Data for Usability in Final Reports*. This procedure establishes the guidelines for evaluating analytical data with respect to precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters. Data validation will be performed according to the RFETS APO, Analytical Services Performance Assurance Group procedures, but will be done after he data is used for its intended purpose.

6.11.1 Precision

Precision is a quantitative measure of variability that is evaluated by comparing analytical results for real samples to analytical results for corresponding duplicate samples. Analytical precision for a singe analyte is expressed as the Relative Percent Difference(RPD) between results of duplicate samples (and matrix spike duplicates) for a given analyte. RPDs indicate the degree of reproducibility of both the sampling and analysis methods. The precision criteria for these samples are specified in the respective methods. For precision, the typical relative percent difference between samples and duplicates is less than or equal to 40% for soil. Duplicates comprise at least 5% of the total sample batch.

6.11.2 Accuracy

Accuracy is a measure of the closeness of a reported concentration to the true value. Analytical accuracy is expressed as percent recovery of a spike of a known concentration that has been added to an environmental sample before analysis. The QC criterion for acceptable percent recovery is 80 percent to 120 percent for all analytes in all media. Accuracy is the responsibility of the laboratory.

6.11.3 Representativeness

Representativeness is a qualitative measure of data quality defined by the degree to which the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or in this case, an environmental condition. Representativeness is ensured through the careful development and review of the sampling strategy outline in the SAP and SOPs for sample collection, analysis and field data collection.

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6.11.4 Completeness

Completeness (90% of valid data) will be evaluated by comparing the SAP to the actual sampling episode. The expected percentage of characterization data validation required for the project is 25 percent.

6.11.5 Comparability

Comparability will be evaluated by comparing historical data with data collected during this event and will be followed in accordance to EPA regulations and Waste Acceptance Criteria, through which data will be validated.

7.0 SCHEDULE

Sample collection and analyses will be conducted in two phases. Phase I will involve collection of twenty-four (24) samples outside of Building 123, and two (2) field duplicates; Phase II will involve collection of twenty-six (26) samples within and beneath the Building 123 slab, and two (2) field duplicates. Phase I sample results may warrant changes in Phase II sample location and frequency, at which time the SAP will be amended to accommodate such changes.

8.0 ADDITIONAL ACTIVITIES

8.1 CLOSURE OF RCRA UNIT 40

The Building 123 slab will remain in place following completion of demolition activities. Proper closure of underground, active lines will be contingent upon rinsate and soil sampling analyses results for constituents listed in Table 4-4. In the event that no contamination above Tier II action levels (RFCA, Appendix 6) is detected, the lines will be remediated in accordance with the Closure Plan. All surface openings to active lines will be capped with a plug of non-shrinking bentonite slurry, and the lines will be abandoned in place under the RCRA Unit 40 Closure Plan. Such an action will be considered a RCRA stable configuration in accordance with the Site Part B Operating Permit.

8.2 DISPOSITION OF WASTE

Remediation and closure activities including IHSS soil sampling may generate a combination of radioactive, hazardous and mixed wastes. Contaminated soil and pipeline material are expected to be the major sources of waste. Wastes consisting of plastic, tools, PPE, and other materials associated with remediation will also be a major source of waste. Following remediation activities, the RFETS Building Radiation Cleanup Standard (BRCS) will be utilized to determine if residual radioactive constituents contained in remaining equipment and remediation debris is compliant with RFCA guidelines and appropriate as-low-as-reasonably-achievable (ALARA) considerations. The BRCS is currently under development in coordination with the EPA, CDPHE, and DOE. Until the BRCS is approved, more conservative criteria defined in DOE Order 5400.5 and associated RFETS radiation protection procedures will be used to manage debris generated by remedial activities. Contaminated waste will be handled by qualified waste packaging technicians who will support decontamination specialists and radiation control technicians to identify and segregate hazardous or low level waste. Drums or boxes will be provided by the Waste Disposal group. Waste packaging technicians will package and label the waste and arrange for radioactive waste to be certified by the Waste Certification group. The Project Waste Coordinator will work with the certification personnel and prepare all required documentation. Liquid waste generated during decontamination of sampling and associated equipment will be collected in drums and shipped to Building 374 for processing. Solid waste will be managed by the Waste Disposal group and moved to a temporary staging area immediately adjacent to the site to be placed in roll-off containers until proper disposition is determined. Contaminated soil and pipeline material will ultimately be disposed of offsite by Chemical Waste Management as RCRA hazardous waste. Low-level radioactive waste will be disposed of at the Nevada Test Site. Non-hazardous, non-radioactive industrial waste will be disposed of at an offsite landfill.

9.0 REFERENCES

DOE 1992a, *Final Phase I RFI/RI Work Plan for Operable Unit 9, Original Process Waste Lines*, March.

DOE 1992b, *Final Phase I RFI/RI Work Plan for Operable Unit 13, 100 Area*, October.

DOE 1992c, *Historical Release Report for the Rocky Flats Plant*, Rocky Flats Plant, Golden, CO.

DOE 1993, *Background Geochemical Characterization Report*, September.

DOE 1994, *Final Phase I RFI/RI Work Plan for Operable Unit 9, Technical Memorandum No. 1, Volume IIA-Pipelines*, November.

DOE 1996, *Rocky Flats Cleanup Agreement, Final*, July.

EPA 1994, *Guidance for Data Quality Objectives Process*, EPA QA/G-4, September.

RMRS 1997a, *Proposed Action Memorandum for the Decommissioning of Building 123*, May.

RMRS 1997b, *RMRS Quality Assurance Program Description, RMRS-QAPD-001, Rev. 1*, January.

RMRS 1997c, *Final Sampling and Analysis Plan for the Pre-Remedial Investigation of the Mound Site Plume*, February.